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Applying the Theory of Variation in Teaching Reading

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Abstract: This paper presents a model of collaborative and reflective professional development for teachers that focuses on student learning. The model comprises a cyclical series of lessons that were carried out in Hong Kong with 94 Secondary Four (Grade 10) students. The lessons were designed to develop the reading skill of inferring characters’ traits from the events of a story—a skill that presents difficulties for many secondary school students of English as a second language. The learning activities in the research lessons were underpinned by the Theory of Variation proposed by Marton and Booth (1997), which allows students to discern the critical features of the particular skill to be learnt. Findings indicate that the lessons were successful in helping the students develop the skill. Teachers also benefitted from the collaborative reflections and investigations. The paper suggests that this model may enhance both student learning and teacher professional development.

Introduction

This paper reports on a project that implemented a collaborative and reflective model of teacher professional development that concentrated on enhancing student learning. In the project, the author—a lecturer in an institute specializing in teacher education—worked with a team of English teachers in a secondary school in Hong Kong in designing, delivering and reflecting upon a series of lessons that focused on a specific reading skill that had been identified as problematic for students—in this case, the inferring of characters’ traits from the events of a story. The learning activities that were incorporated in the lessons were informed by the Theory of Variation (Marton & Booth, 1997), which encourages teachers and students to identify the critical features of a new object of learning through comparison with existing frameworks of knowledge and understanding. The study sought to explore new ways of teaching and learning a troublesome aspect of reading English short stories.
The focus chosen by the teachers for the project was helping students to read short stories, as *Learning English through Short Stories* is one of the English electives offered by the school in line with the New Senior English Curriculum that was initiated in Hong Kong in 2009. The teachers in the school reported that although short stories had been used since junior secondary levels (Grade 7-9), students did not seem to be motivated to engage in reading. They described their approach was to ask the students to read some pages at home and then to hold a quick discussion of a set of comprehension questions in class. No particular skills or strategies were explicitly highlighted in the lessons. The teachers found that the students could not recall much of the events in the texts. To most of the students, reading was equivalent to checking the meanings of words from the dictionary. As a result, when it came to some more complex relationships and concepts in the story, they found it difficult to comprehend because they did not approach reading strategically and holistically. Most of them were not able to operate at the discourse level. Since the English language proficiency was low among some of the students, the way they responded to open-ended questions was much regimented, and their way of conceptualizing the relationship between events and characters was vague and insecure. They could not make the necessary inferences about what was implicit in the text. Since they were unable to cope with the linguistic and content intricacies of a story, the reading tasks tended to become very mechanical and demotivating for the students.

This apparent lack of appropriate comprehension strategies and focuses in both reading comprehension exercises and open-ended responses became a major concern of the teachers in the school. The deficiencies were recognized to be detrimental to students in their linguistic advancement in the decoding and encoding of texts. The teachers were all willing to tackle the problems at this stage. The teachers reckoned that the students might already possess the requisite schemata from their experiences of reading texts in their mother tongue, Chinese, but they were yet able to transfer these schemata to English. Teaching comprehension strategies explicitly was seen as a possible approach to tackling the problems faced by the students. After three rounds of discussion, the teachers in the project eventually narrowed down their focus to developing students’ ability to infer characters’ traits from the events of the story, as they all agreed that understanding and being able to describe the traits of the characters, which form the fundamental component of a story, can help students decipher how the different relations are intricately interwoven. Students’ linguistic competence might also be strengthened through locating words, phrases (adjectival and adverbial) and clauses for describing the characters.

Another decision that the team made was to apply a particular theory to the learning process. The teachers felt that there was a gap in the many educational innovations that had been launched in recent years in Hong Kong. Although the English language curriculum
documents had advocated process-driven holistic student development to outcome-based oriented practice (Curriculum Development Council, 1999, 2007), they had had limited impact because they neglected one very pertinent area: how the object of learning is to be handled by teachers and students. The assumptions underlying such innovations is that once the objectives and activities to achieve them are specified, the expected learning outcomes will be achieved. This scientific perspective views teaching and learning as a mechanic and static rather than dynamic process. To bridge this gap, the teachers decided to experiment with the Theory of Variation.

**Theory of Variation**

Marton and Booth’s Theory of Variation (1997) is drawn from the phenomenographical research tradition. It argues that there is no single way to understand, experience or think about a particular phenomenon; indeed there is considerable variation in people’s discernment. In learning, individual students make sense of new concepts in different ways, according to their existing understandings and frameworks of knowledge. This requires teachers to engage closely with their students to grasp the variations in understandings and knowledge so they can take account of this diversity in structuring the learning activities in a lesson (Marton & Tsui, 2004).

According to the Theory of Variation, students’ attention should be directed towards an ‘object of learning’. The object of learning could be drawn from the subject syllabus or from a teacher’s assessment of students’ needs. Once the object of learning has been chosen, the teacher then considers its critical features—the characteristics that distinguish it from other objects of learning. At this stage, consultation with students is valuable for two reasons. First, as noted above, individuals might perceive what the critical features are in a variety of ways, and the teacher needs to incorporate the variety in the lesson planning. Second, teachers, as subject experts, might not view an object of learning in the same way as novice learners, and they need to attune the learning experiences to the needs of the latter. Once the critical features—and the students’ perceptions of them—have been identified, the teacher can design learning activities that bring these features to the fore. One powerful pedagogical tool is the use of comparison, as juxtaposition can highlight similarities and, crucially, differences. Thus variation occurs in another form in the process: not only do people demonstrate variation in their perception of a phenomenon, they can learn by discerning variation across different objects of learning (Bowden & Marton, 1998). Teachers can manipulate the use of comparison in order to guide the students to focus on particular features of the object of learning, thereby structuring and directing the students’ discernment. The quality of the
manipulation determines the effectiveness of student learning (Marton & Morris, 2002; Marton & Runesson, 2003)

Marton and Runesson (2003) list four forms that the manipulation might take, contrast, separation, generalization and fusion. If the object of learning is, for example, the format of newspaper reports, the concept could be introduced by contrasting this format with a similar but different format, such as a police report—the contrast serves to highlight the features of the newspaper report format. Through this contrast, the particular characteristics of this format can be separated from those of other report formats. Generalization might comprise showing the students different kinds of reports and asking them to distinguish the common features (e.g., the use of narrative and description of events) from other variable features (degree of formality, degree of depersonalization, and so on). Fusion consists of integrating more than one of the first three forms.

Lesson Studies, whereby teachers work collaboratively in the preparation and delivery of lessons and then reflect on the outcomes, have a long history in many parts of the world, especially Asia (Li & Ko, 2007; Lo, Pong, & Chik, 2005). The application of the Theory of Variation has become increasingly popular in Lesson Studies; in some places, such as Hong Kong, the term ‘Learning Study’ is used for such an approach, which can also be found in Japan, mainland China, Sweden, Brunei, USA and Canada to name but a few locations. In the Learning Study described in this paper, a cyclical design was used. Teachers worked together to design a lesson which was delivered by one colleague in the presence of the rest of the team; following reflective deliberations, the lesson was redesigned for delivery by a different colleague to a parallel class. Progress through the unit of study thus followed this iterative pattern, allowing for adjustments based on reflection and investigation.

The Study

The research focus of the study was exploring the effectiveness of using the Theory of Variation in teaching reading in English lessons in a secondary school in Hong Kong. The approach was action research (a lesson study) with pre- and post-tests, teacher reflections and student interviews as the main forms of data. The lesson study began in December 2010 and continued to July 2011. Three Secondary 4 (Grade 10) teachers and 94 students were involved. The three classes were of different abilities. The school had invested in the lesson study as professional development for the teachers in the context of the implementation of the new English curriculum, and the subject coordinator (known as the Panel Chair in Hong Kong) has nominated the three teachers to participate. The use of the Theory of Variation was to perceive a new way of thinking about teaching and learning and acquire a tool for handling
content. The theoretical framework of this learning study is premised upon three types of variation:

Variation 1 (V1): Variation in students’ understanding about the topic
Variation 2 (V2): Variation in teachers’ understanding of what the most worthwhile object of learning is and ways of handling it
Variation 3 (V3): Using “Pattern of Variation” as a guiding principle of pedagogical design

Within each type of variation, focused questions were explored to inform the planning and delivering of the different stages of the teaching and learning process. The questions for V2 were:

- Which topic is most worth studying?
- What do you expect the students to learn on the topic?

To understand the variation in students’ understanding about the topic, the following questions for V1 were formulated:

- What do the students know already?
- What is/are difficult for them to learn about the topic?

Very often students’ existing intuitive experience may hinder or even counteract their new ways of learning. To understand more comprehensively the actual problems students had, interviews (see Appendix 1 for the questions) were carried out with students of different levels of performance to foreground more explicitly the deficiencies in their reading. The team found that the students in general had the conception of characters in stories and could use limited words/adjecitives to describe characters’ traits, but they had the following problems when reading a short story:

- **Comprehension**: understanding vocabulary; following the plot, and understanding the characters;
- **Making interpretations**: lacking approaches and focuses to make their own interpretations; coping with ambiguity;
- **Inadequate comprehension strategies**: tending to focus on words rather than the discourse level; lacking the ability to make connections among different aspects to analyze/synthesis a character; and
- **Motivation**: lacking confidence; finding the content of stories uninteresting; not having the habit of reading.

The protocol confirmed the team’s perceptions of the problems of the students, which were particularly prominent among weaker students. The teachers eventually came to agree that understanding the characters requires careful deliberation, as a story is shaped by characters. Apart from strengthening students’ linguistic competence, logical thinking and creativity in the long run, their skills in writing short stories could also be advanced.
Based on the evidence and discussion, the object of learning was then confirmed and the related critical aspects for discernment during the research lessons were specified. The critical features (CF) identified were:

- **Traits of characters can be reflected from the state and action in the events (CF1);**
- **State, action and traits are interrelated (CF2); and**
- **Traits may change through events (CF3)**

The short story ‘*The Hand of Fate*’ (summarized in Appendix 2) was chosen for the research lessons because of its particularly gripping theme and involvement of the students in the suspense of unraveling the plot. This type of text is a particularly good source for developing students’ abilities to infer meaning and to make interpretations, as it is rich in multiple levels of meaning, and demands that the reader be actively involved in ‘teasing out’ the unstated implications and assumptions of the text. Trying to ascertain this significance provides an excellent opportunity for students to discuss their own interpretations, based on the evidence in the text. By encouraging the students to grapple with the multiple ambiguities of the text, they could be helped to develop their overall capacity to infer meaning. These very useful skills can then be transferred to other situations where students need to make an interpretation based on implicit or unstated evidence. The text can also help to stimulate the imagination of the students, to develop their critical abilities and to increase their emotional awareness. If students are asked to respond personally to the texts, they will become increasingly confident about expressing their own ideas and emotions in English.

The teachers selected another short story ‘*Is There Anyone Up There?*’ (summarized in Appendix 3), which has similar qualities to ‘*The Hand of Fate*’, for setting the pre- and post-tests (Appendix 4). Several rounds of discussion were held to design the test in ways that minimized any unnecessary distractions and variables. The test items allowed students opportunities to demonstrate their ability to infer the traits of different characters through identifying relevant evidence from the text. Two open-ended questions were also included to assess the students’ ability to transfer the knowledge of conceptualizing the relationship between traits and events of the story to their own real life experiences. An extended amount of time was spent on setting of codes in marking the answers and explanations of the tests. Consensus needed to be sought among the teachers to maximize consistency.

Developing and delivering an effective research lesson on a challenging topic also occupied required several weeks of lesson design and discussion. Teachers could teach flexibly and adjust the lesson activities according to the students’ ability. To incorporate variation in the pedagogical design (V3), different activities were devised with reference to the characters and events of the story ‘*The Hand of Fate*’. The activities highlighted the critical features in various ways so the students could experience the variations and achieve more powerful forms of discernment in the learning process. Descriptions of activities are
Activities Critical features discerned

Activity 1
Teacher asks Ss to use an adjective to describe Benjamin’s traits in Event 1.

a. Can you find any adjectives to describe Benjamin’s traits in Event 1?
b. Can you use an adjective to describe Benjamin’s traits in Event 1?
c. Why do you use this adjective to describe Benjamin? (Ss give support for the adjective suggested.)
   (Teacher reminds Ss that not all adjectives of traits are mentioned directly in the story.)
d. How is Benjamin’s trait created?

Teacher and students conclude, with examples, that:
- actions can reflect character traits
- state can affect a person’s action and nature.

Activity 2
Teacher asks Ss to describe John’s traits in Events 1 and 2 and give support.

e. Read Events 1 and 2. Find words/phrases to describe John in these 2 events respectively.
f. Why do you use these words/phrases to describe John? How do John’s traits change (more negative)? (Students are then led to refer to some actions that John has taken and the state he is in.)

Students work in pairs to describe the personality of John in Event 3.

g. Read Event 3. Find some words/phrases to describe John in this event.
h. Why do you use these words/phrases to describe John? (Students again make references to actions and state)

Students generalize that state, action and trait are interrelated.

Activity 3
Students compare John’s traits in different events and are expected to point out that characters’ traits change in the course of the story. State, action and trait are interrelated.

Traits may change through events (CF3)

Table 1: Pedagogical design; variations in learning activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Critical features discerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1</td>
<td>Traits can be reflected from the state and action in the events (CF1)</td>
</tr>
<tr>
<td>Teacher asks Ss to use an adjective to describe Benjamin’s traits in Event 1.</td>
<td></td>
</tr>
<tr>
<td>Activity 2</td>
<td>State, action and trait are interrelated (CF2)</td>
</tr>
<tr>
<td>Teacher asks Ss to describe John’s traits in Events 1 and 2 and give support.</td>
<td></td>
</tr>
<tr>
<td>Activity 3</td>
<td></td>
</tr>
<tr>
<td>Students compare John’s traits in different events and are expected to point out that characters’ traits change in the course of the story. State, action and trait are interrelated.</td>
<td>Traits may change through events (CF3)</td>
</tr>
</tbody>
</table>

Table 1: Pedagogical design; variations in learning activities
**Pattern of Variation 1: (Separation)**

The teacher asked students “How are Benjamin’s traits created?” This might generate many possibilities and students could look for different evidence or incidents to support the traits they identify. This brought out the following pattern of variation:

<table>
<thead>
<tr>
<th>Varied</th>
<th>Not Varied</th>
<th>Critical features to be discerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support from the story that describes actions and states</td>
<td>The traits of Benjamin</td>
<td>There are different supports from the story to reflect Benjamin’s traits. Actions and states can reflect one’s traits (CF1)</td>
</tr>
</tbody>
</table>

**Pattern of Variation 2: (Generalization)**

When the teacher asked students to describe John’s traits in Events 1 and 2 with clues provided, the following pattern of variation was brought out:

<table>
<thead>
<tr>
<th>Varied</th>
<th>Not Varied</th>
<th>Critical features to be discerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actions, states, traits</td>
<td>Actions and states can reflect John’s traits</td>
<td>State, action and trait are interrelated (CF2)</td>
</tr>
</tbody>
</table>

**Pattern of Variation 3: (Fusion)**

In the consolidation part, when teachers asked students to work in pairs to describe the traits of John in Events 3 and 4, students had to compare John’s traits in different events vertically. Students would experience fusion because they had to make use of all the critical features learnt in the lesson. The following pattern of variation was brought out:

<table>
<thead>
<tr>
<th>Varied</th>
<th>Not Varied</th>
<th>Critical features to be discerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Events John’s traits</td>
<td>John</td>
<td>Characters’ traits change throughout the story (CF3)</td>
</tr>
</tbody>
</table>

After each research cycle of research lesson, teachers and the consultants got together to reflect on the following questions:

- *How was the lesson in each cycle taught?*
- *What did the students learn in each cycle?* and
- *How can we improve the lesson plan for the next cycle?*
Learning Outcomes

The research lessons, with adaptations made throughout the teaching cycles, effectively taught students how to infer characters’ traits in the events of a story, through making reference to the state and action explicitly stated. Some of them were able to figure out the fact that action and state are interrelated and that traits change in different events in the course of the story. Students were also given opportunities to practise strategies of identifying evidence to discern the use of state and action to illustrate the trait and its relationship with events.

Throughout the project, three questions guided the teachers’ reflections on the lessons and the analysis of student learning outcomes, whether formally obtained through pre-and post-test results or through observations:

• What are the overall learning outcomes?;

• How are the outcomes related to the teaching act in each cycle?; and

• What lessons do we learn from this Learning Study?

Observation and evidence from the pre-post lesson interviews (see Appendix 5 for the questions) and post-test results suggest that the research lessons achieved the objective of promoting students’ ability to infer characters’ traits from the events of the story. The evidence, while not uniform, indicates that students used specific strategies taught from the lesson to infer and support their view of the traits of a character. As reported by the teachers, the students demonstrated that they could write more when answering questions about describing traits. They could find evidence to support their views, especially with reference to action and state. Students could understand that they have to find support when answering the open-ended questions. Students could divide their evidence into action and state. Students could also understand that traits might change in the development of a story. As shown in Figure 1, the accuracy rate in providing the appropriate responses was also higher after all three cycles of research lessons.
The explanations and evidence provided by the students also improved, though there was minute unexpected reverse of practice. There was a positive correlation between the explanations and evidence and the choice of character traits when the results of the pre- and post tests are compared. As shown in Figure 1, there was an improvement in the students’ ability to infer the traits of characters in the story from the narrative. The average class in Cycle 2 showed the greatest improvement (31.63% to 67.44%) when compared with the other classes, i.e. the class in Cycle 1: 8.32% to 38.23% and the class in Cycle 3: 32.11 % to 56.89%. Table 2 shows the analysis of three students’ work in the pre- and post- tests.
<table>
<thead>
<tr>
<th>Student code</th>
<th>Event in story</th>
<th>Pre-test character description</th>
<th>Pre-test Analysis</th>
<th>Post-test Character description</th>
<th>Post-test Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>O8</td>
<td>Event 1: David lived in Windy Hall</td>
<td>David: ‘Nobody will come and live there. It’s got a bad reputation’</td>
<td>Student copied the sentences from the text, which were inappropriate</td>
<td>David: He is lonely – he is in Windy Hall by himself. He said he liked it and will never leave the place. He did not go dancing with other girls. He is shy.</td>
<td>Student can locate the words/phrases from the text to describe David. He also drew evidence from the text to further illustrate his view.</td>
</tr>
<tr>
<td>29</td>
<td>Event 2: Noises in the house when Mary was there</td>
<td>Mary: Mary could take care of him. David was unconscious and he was waking up gradually.</td>
<td>Student fabricated his own ideas, not directly based on the text</td>
<td>Mary: She was frightened. She was caring and took care of David</td>
<td>Student can locate the adjective ‘frightened’ from the text and he inferred from the previous section to describe Mary as a caring person as she continued to look after David though she was scared.</td>
</tr>
<tr>
<td>57</td>
<td>Event 3: A large man appeared in David’s room</td>
<td>David: kind, caring</td>
<td>Student gave a few adjectives with no further details or support</td>
<td>David: He was kind and tender. He held Billy’s hand to calm him. He talked to Billy (the large man) gently.</td>
<td>Student referred to the state and actions to exemplify the adjectives used.</td>
</tr>
</tbody>
</table>

Table 2: Examples of students’ response in the pre- and post tests

A Paired-Samples T Test procedure was used to compare the means of the results of the pre-post-tests of each single group. The p values obtained after the treatment, i.e., the research cycles, are 0.003, 0.025, 0.000 respectively and the overall (N=94) is 0.000 (as shown in Table 3). Since the significant values for change in test results are <0.05, the improvement in student performance can be firmly attributed to the teaching they received.
### Paired Samples Statistics

<table>
<thead>
<tr>
<th>Pair</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>9.5213</td>
<td>17.9255</td>
</tr>
<tr>
<td>N</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>7.40492</td>
<td>9.25649</td>
</tr>
<tr>
<td>Std. Error Mean</td>
<td>.76376</td>
<td>.95473</td>
</tr>
</tbody>
</table>

### Paired Samples Correlations

<table>
<thead>
<tr>
<th>Pair</th>
<th>Pre-test &amp; Post-test</th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>94</td>
<td>.589</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

### Paired Samples Test

<table>
<thead>
<tr>
<th>Pair</th>
<th>Pre-test - Post-test</th>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>95% Confidence</td>
<td>9.98803</td>
<td>-9.98803</td>
<td>-6.82048</td>
<td>-10.5</td>
</tr>
<tr>
<td></td>
<td>Interval of the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>-6.82048</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper</td>
<td>-10.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>-10.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>df</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: T-Test results (N=94)

An important outcome for students’ benefit from this study was their ability to identify the relevant information (state and action in each individual event) and make use of them to enrich their understanding of the characters and their contribution to the different parts of the story.

Students’ responses to the learning activities indicate they were all well-received. A more capable student commented that the teaching was more focused with clear objectives, and this helped them learn better and they could tell what they have learnt by the end of a lesson. In general most students interviewed expressed positively that their learning in the lesson was more systematic with explicit and clear structures. They felt that this form of scaffolded learning was more effective than when they were just asked to read a story and respond to comprehension questions.
One student also praised the teachers for their use of different questions to direct them to locate essential information of the story. Some students also appreciated how the teacher divided the story into events, as it helped them to identify clearer the flow of the story and the role and change in different characters. One student reflected, “I can see the relationship of different parts of the story now and I have learnt the traits of different major characters through locating adjectives, sentences and other evidence, e.g. what they do, to understand better who they are.” One student said that reading stories required a lot of thinking, which he was not aware of in the past. One less capable student added that in the past his way of reading was simply to find out the names of the characters and some of the things they do in the story. Now he realized that he has missed out a lot of other aspects that could be interesting and could help him make more sense of the story. He said he would pay more attention to these details in future.

Regarding the ability to transfer their knowledge, two students acknowledged that referring to the state and action of the events of story could help enrich their writing. In the past they used to use mainly adjectives to describe the characters, but now they said that they could provide more background information and actions carried out by the characters to supplement their writing. They now realized that they could infer the traits of a particular character from another characters’ speech. Two students recalled that they used to randomly fabricate their own reasons when answering open-ended questions. Now they realized that there are ways to logically trace the relationship of different parts of the story. Three students added that now they dared to express their view of the story more as they can understand more deeply the content and its linguistic features, with reference to different clues, e.g. events, actions, states and traits. However, two weaker students seemed still did not quite grasp the focus of the lesson and commented that they did not understand how various actions, states and traits were related.

Several students commented that the group work and pair work activities gave them the opportunity to work with their peers to conceptualize and clarify the relationship between characters and events in a meaningful context. Two students in the interview indicated that they valued the chance of reading other classmates’ work, so that they could carry out some contrasting and comparison of their work in order to deepen their understanding of the learning activities and its aims.

Based on their own observations of students’ performance in the research lessons, the three teachers also reckoned that the students could write more when answering questions about describing traits. They could find evidence to support their views, especially with reference to action and state. They thought that students could also understand that traits might change in the development of a story.
Conclusions

This Lesson Study had the objective of enhancing student learning through the use of the Theory of Variation. Evidence suggests that the objective was achieved. The application of the Theory of Variation was effective in that it helped the teachers to sharpen the focus on the object of learning, which resulted in the students acquiring a better understanding of the role of characters’ traits and their interaction with a storyline. Shifting to an alternative way of viewing teaching and learning also proved to be a learning process for the teachers themselves. It was not achieved overnight; instead, it emerged from the deliberative process that took several weeks.

The Theory of Variation is not presented here as a panacea for all teaching situations. It is one approach to learning that might not be appropriate in every context. Indeed, it would be difficult to replicate the lesson study presented in this paper elsewhere, as much depends on the specific characteristics of the learners. However, the Learning Study model, which treats teaching and learning as matters for investigation, experimentation and adjustment, and which is underpinned by a theory that provides structure to the process of student learning and teacher development, seems worthy of emulation in a variety of situations.

References


**Appendix 1: Interview questions**

1. Do you like reading short stories? Why?
2. How do you read a story in order to understand what it is about?
3. What difficulties do you have when you read this kind of short stories?
4. What do you usually gain from reading short stories?
5. How many characters does this story have?
6. Can you describe the characters in this story? Please give the reasons/clues (language and content).
   (i. Benjamin; ii. His wife Susan; iii. His brother John; iv. Main character, the doctor)
7. Do you think understanding the character of each person can help you comprehend the events in the text?
8. Can you indicate some important events in this story?

**Appendix 2: Summary of The Hand of Fate used in the research lessons**

Benjamin Brooks was a famous pianist. He was very rich and brought a house in Ludlow for retirement. One summer he and his young beautiful wife Susan moved into his new house. He always admired his own hands, which brought his fame and money. His hands were beautiful with long well-shaped fingers. He even wanted his hands to be cut off and preserved after his death. Benjamin let John, his young brother, live with them. He was like a son to Benjamin. He was always by Benjamin’s side helping him. He turned the pages of the music for Benjamin. As Benjamin grew weaker and weaker, his put down in his will that half of his money would be left to his wife and half to John. He even asked Doctor Pym to cut off his hands and have them preserved after he died. John also agreed to take care of Benjamin’s hands. Susan stayed in his room night and day looking after him.

After Benjamin’s death, John did not seem to be upset over his brother’s death. He was not interested in what was to happen to his brother’s hands. He and Susan were in fact packing to leave the house. The night before they left, there was a fire in the house and both John and Susan were both dead with marks of someone’s fingers on their necks. Some
servants reported that they caught sight of a small while animal of some sort along the passageway. But most people concluded that it was the robbery that caused the tragic. But when Dr Pym went into the house to see to the box that contained Benjamin’s hands, he found that one of the hands was still inside the box, but the other was lying beside it. He also found a piece of paper next to the box, on which two words were roughly written – ‘Poison’ and ‘Revenge’. It looked like to him like Benjamin’s handwriting. Pym decided that it was best to say nothing to the police, but sent the hands to the British Museum.

Appendix 3: Summary of *Is there anyone up there?* used in the pre/post-tests

David lived in Windy Hall, a big old farm house, after his parents had passed away. People kept away from it because they said that is was full of ghosts. David was alone and only went to the market once a month. He was shy and he realized that nobody would like to come to his house as live was hard there. But he liked it and never wanted to leave it. He worked hard and seldom went out to dance with other girls. One day, he became very ill and became unconscious and was visited by Dr Pym. Dr Pym invited Mary, whom was helped by David before to come to look after him. Though Mary felt a bit reluctant to do so because of all the rumors, she agreed to take care of David. While Mary was in Windy Hall looking after David, noises always came from upstairs at night. Although Mary felt terrified, she stayed on to tend to David’s needs. One day, while David was beginning to gain conscious, there were heavy foot steps and a large man charged into the room. Mary was scared but David was managed to calm the man down by holding his hand and talked to him gently. The large man was in fact David’s younger brother, Billy, who was simple-minded and was always kept upstairs by their parents. Mary was also very nice to Billy and even cooked for him. When David recovered from his illness, he proposed to Mary and they got married. They let Billy stay with them and they went to the town together. They lived happily together.
Appendix 4: Pre/Post tests

Pre/Post test

Name: __________________ ( ) Class: ___________ Date: ___________

Read the story *Is there anyone up there?* and answer the following questions.
You can keep the book open while answering the questions.

1. What are the personalities of the following characters? How are their personalities shown or described through the events of the story?
   
   i) David

<table>
<thead>
<tr>
<th>Events</th>
<th>Character Descriptions</th>
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<tbody>
<tr>
<td>Event 1</td>
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</tr>
<tr>
<td>Event 2</td>
<td>Noises in the house when Mary was there</td>
</tr>
<tr>
<td>Event 3</td>
<td>A large man appeared in David’s room</td>
</tr>
<tr>
<td>Event 4</td>
<td>David and Mary lived happily together</td>
</tr>
</tbody>
</table>

   ii) Mary

<table>
<thead>
<tr>
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<th>Character Descriptions</th>
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</thead>
<tbody>
<tr>
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<td>David lived in Windy Hall. He became unconscious and was visited by Pym.</td>
</tr>
<tr>
<td>Event 2</td>
<td>Noises in the house when Mary was there</td>
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<tr>
<td>Event 3</td>
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<tr>
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2. Which character do you like most and why?

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

3. If you were Mary, would you go to look after David in Windy Hall?

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

~ The End ~
Appendix 5: Pre/Post-lesson Student Interview

**Pre-lesson Student Interview**
1. Do you like reading short stories? Why or why not?
2. How did you learn reading? Did your English teachers teach you any reading strategies before?
3. What difficulties do you have when you read short stories?
4. Is that easy for you to find out the characters’ personalities?
5. How do you find out the personalities of the characters?

**Post-lesson Student Interview**
1. What have you learned in today’s English lesson?
2. What new things have you learned?
3. Do you like the reading lesson today? What are the differences between today’s lesson and former writing lessons?
4. Which activity in the lesson do you like most? Why?
5. How do you find out the personalities of the characters?
6. Do you think that the reading strategies you learnt today are useful or not? Explain.